What is claimed is:

1. A reference voltage source for an integrated circuit comprising:

a trimmable voltage reference for providing a reference voltage for the integrated circuit;

a bandgap voltage reference;

a differential sensing device for comparing the reference voltage provided by the trimmable voltage reference to a voltage provided by the bandgap voltage reference; and

a controller responsive to an output of the differential sensing device for adjusting the trimmable voltage reference while the output of the differential sensing device has an initial value and for providing a signal to power down the bandgap voltage reference when the output of the differential sensing device transitions to a second value.

2. The reference voltage source for an integrated circuit of claim 1, wherein the controller is adapted to periodically adjust the trimmable voltage reference.

3. The reference voltage source for an integrated circuit of claim 2, wherein the controller is adapted to reactivate the bandgap voltage reference prior to each adjustment period.

4. The reference voltage source for an integrated circuit of claim 1, wherein the controller functions in response to a clock and activates in response to a signal that switches at a frequency that is lower than the frequency of the clock.

5. The reference voltage source for an integrated circuit of claim 1, wherein the trimmable voltage reference comprises a plurality of series connected resistors tapped by a plurality of switches selectively engaged in response to a trim signal from the controller.

6. The reference voltage source for an integrated circuit of claim 1, wherein the trimmable voltage reference comprises a resistor ladder coupled to a current source, in which the resistors are selectively shunted by switches in response to a trim signal from the controller.

7. The reference voltage source for an integrated circuit of claim 1, wherein the trimmable voltage reference requires less current to operate than the bandgap voltage reference.

8. The reference voltage source for an integrated circuit of claim 7, wherein the bandgap voltage reference has higher precision than the trimmable voltage reference.

9. A reference voltage source for an integrated circuit comprising:

a trimmable voltage reference for providing a reference voltage for the integrated circuit;

a bandgap voltage reference;

a differential sensing device for comparing the reference voltage provided by the trimmable voltage reference to a voltage provided by the bandgap voltage reference; and

a controller responsive to an output of the differential sensing device for adjusting the trimmable voltage reference while the output of the differential sensing device has an initial value and for providing a signal to power down the bandgap voltage reference and the differential sensing device when the output of the differential sensing device transitions to a second value;

wherein the controller is adapted to periodically provide a signal to reactivate the bandgap voltage reference and the differential sensing device for periodically adjusting the trimmable voltage reference.

10. The reference voltage source for an integrated circuit of claim 9, wherein the controller functions in response to a clock and activates in response to a signal that switches at a frequency that is lower than the frequency of the clock.

11. The reference voltage source for an integrated circuit of claim 9, wherein the trimmable voltage reference requires less current to operate than the bandgap voltage reference and wherein the bandgap voltage reference has higher precision than the trimmable voltage reference.

12. A method for adjusting a reference voltage for an integrated circuit comprising:
enabling a first reference voltage and a second reference voltage;
comparing the first reference voltage to the second reference voltage;
adjusting the first reference voltage in response to the comparison to the second reference voltage until the comparison indicates that a transition has occurred relative to a differential between the first reference voltage and the second reference voltage;
ceasing to adjust the first reference voltage after the comparison indicates that the transition has occurred.

13. The method of claim 12, further comprising disabling the second reference voltage after the comparison indicates that the transition has occurred.

14. The method of claim 13, further comprising, re-enabling the second reference voltage periodically for comparing and adjusting the first reference voltage.

15. The method of claim 12, wherein comparing the first reference voltage to the second reference voltage generates a comparison signal having a first logic level when the first reference voltage is less than the second reference voltage and having a second logic level when the first reference voltage is greater than the second reference voltage.

16. The method of claim 15, wherein the comparison indicates that a transition has occurred when the comparison signal transitions from the first logic level to the second logic level if the first reference voltage is initially less than the second reference voltage or when the comparison signal transitions from the second logic level to the first logic level if the first reference voltage is initially greater than the second reference voltage.

17. The method of claim 15, wherein adjusting the first reference voltage comprises incrementing a trim signal if the comparison signal has the first logic level and decrementing the trim signal if the comparison signal has the second logic level.

18. A method for adjusting a reference voltage for an integrated circuit, comprising:

activating a first reference voltage source to generate a first voltage signal, wherein the first reference voltage source is adjustable in response to a value of a trim signal to modify the first voltage signal;

after activating the first reference voltage source, activating a second reference voltage source to generate a second voltage signal and activating a differential sensing device for comparing the first voltage signal to the second voltage signal;

waiting for the second voltage signal to stabilize;

after the second voltage signal has stabilized, analyzing an output of the differential sensing device, wherein the output of the differential sensing device has an initial value of a first logic level or a second logic level;

adjusting the value of the trim signal by increasing the value of the trim signal if the initial value of the output of the differential sensing device is the first logic level and decreasing the value of the trim signal if the initial value of the output of the differential sensing device is the second logic level; and

discontinuing adjustment of the value of the trim signal in response to the output of the differential sensing device transitioning to the second logic level if the initial value was the first logic level or transitioning to the first logic level if the initial value was the second logic level.

19. The method of claim 18, further comprising:

deactivating the second reference voltage source and the differential sensing device in response to the transitioning of the output of the differential sensing device.

20. The method of claim 19, further comprising:

periodically reactivating the second reference voltage source and the differential sensing device to compare the first voltage signal to the second voltage signal and to readjust the value of the trim signal in response to the comparison.

21. The method of claim 18, wherein the first reference voltage source is adapted to increase the first voltage signal in response to increasing the value of the trim signal and to decrease the first voltage signal in response to decreasing the value of the trim signal.

22. The method of claim 18, wherein the first reference voltage source is adapted to draw less current than the second reference voltage source.

23. The method of claim 22, wherein the first reference voltage source is adapted to draw current that is one order of magnitude less than the current draw of the second reference voltage source.

24. The method of claim 18, wherein increasing the value of the trim signal comprises incrementing the value of the trim signal and decreasing the value of the trim signal comprises decrementing the value of the trim signal.

25. The method of claim 18, further comprising:

activating a clock generator concurrently to activating the second reference voltage source for generating a clock signal;

wherein increasing the value of the trim signal comprises incrementing the value of the trim signal by one for every pulse of the clock signal and decreasing the

value of the trim signal comprises decrementing the value of the trim signal by one for every pulse of the clock signal.

26. The method of claim 25, further comprising:

deactivating the clock generator in response to the transitioning of the output of the differential sensing device.